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ABSTRACT

Drawing upon data from a series of studies, this paper analyzes children's verbalizations about a wordless picture book to discover any relationships between a child's learning style and his or her comprehension of events in the book. Using the definitions of learning style established by M. Rosenberg, the paper also compares the behavior of children at ages 3, 4, and 5 to determine how early the styles might be observed. After discussing the behavior associated with each of the Rosenberg styles--rigid-inhibited, undisciplined, acceptance-anxious, and creative--and the various dimensions of reading comprehension and story structure that can influence style, the paper describes the methodology and the subjects of the studies. It then presents findings from each of the studies, comments on the developmental trends observed, and discusses the implications for beginning reading instruction. Among other things, the paper reports that style (1) is traceable to a very early age, (2) can persist and change, and (3) has an impact on an individual's comprehension. A description of the picture book used in the studies, a bibliography of wordless picture books, and a short bibliography on learning styles are appended. (FL)

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THE IMPACT OF LEARNING/SOLVING STYLES AND DEVELOPMENT ON YOUNG CHILDREN'S PERFORMANCE OF A PREREADING TASK[1]

The central purpose of this paper is to explore developmental association among a prereading task (telling the story in a picture book without words) and four learning/solving styles in young children. The styles were taken from the work of Rosenberg (1968). The process of gathering meaning from a set of sequential and interrelated pictures was deemed a relevant precursor to reading comprehension. Data are drawn from a series of three studies conducted by the present investigator. The last study just undertaken explores developmental aspects with a sample of ages younger than the other two studies, namely 3.6 to 5.5. One of the purposes in going so far down the age scale was to explore at just how young an age Rosenberg's constructs of style might be operational.

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Validation was explored with respect to verbal and non-verbal behaviors exhibited in response to an invitation to tell the story in a wordless picture book. The next part of this introduction offers some definitions.

DEFINITIONS

It is probably helpful to define three constructs used in this paper: "learning/solving style", comprehension, and story structure. Related research, theory, and finally some exploratory questions emerge as a result.

Learning/solving Styles

Definitions of learning style are legion. A sample bibliography is appended (handout). Representive of reviews is the one by Dunn (1983). The Dunn article commented on the lack of adequate measurement of style, observational or otherwise. The article covered many dimensions typically found in the literature summarized in an extensive chart containing: environmental, emotional, sociological, physical, and psychological factors. Dunn failed to mention, however, the psychological constructs of Rosenberg. Perhaps, this omission was related to the relatively sparse use of Rosenberg's work in scientific studies, especially in the

field of reading, with the exception of the work of Gentile (1985) with older subjects. The present investigation, however has found the Rosenberg style constructs interesting and interpreted validation over three separate studies with young children to be described herein.

Rosenberg (1968) described behaviors for each of these styles: Rigid-Inhibited, Undisciplined, Acceptance-Anxious, and Creative. He suggested some clinical approaches for treatment. Moore (in Lundsteen & Tarrow, 1981) hypothesized an accompanying type of parenting influence for each type of child style. The chart in Figure 1 displays these variables associated with the four styles. The psychological factors of locus of information (internal, external, or both in balance), and an accompanying and consequent level of symbolization are also included in the chart. Take a moment to examine Figure 1.

Insert Figure 1, Rosenberg style chart, about here.

Theorizing on the basis of Figure 1, one can examine a diagram showing a progressive relationship among the

styles. One can hypothesize less productive and more productive styles in regard to learning, and in regard to learning to read, especially in the fullest sense of reading comprehension. Thus, the styles can be placed on a rough continuum--from low in learning productivity, through medium, to high. In the past, the present investigator has hypothesized low, medium, and high problem-solving potential for children displaying the four Rosenberg learning styles. Problem solving is deemed a key mode of learning. Further explanation of this diagram follows.

Insert Figure 2, diagram of styles, about here.

The "Rigid-Inhibited style" (to the left) represents low learning/solving potential, and the "Creative" style (way to the right) with its balance of inputs and consequent high level of abstraction attainable represents the highest level. The functioning of the "Undisciplined" and also the "Acceptance-Anxious" styles are considered to be in between these two extremes, or to be representative of medium learning/solving potential.

The two middle styles (Undisciplined and Acceptance-Anxious) differ qualitatively from each other and thus

are diagramed as taking separate, parallel paths. Within each of these hypothesized "medium" styles, certain degrees of behavior that the style has tend to take the child toward a lower, less productive direction. (See the arrows.) Concomitantly, certain behaviors and their degree of strength are hypothesized to take the child in a higher, more productive direction with respect to learning/solving (found in the "Creative" style).

Finally, in the center of the diagram in Figure 2 is a hypothetical middle line. To repeat, behaviors to the left tend toward higher learning/solving potential. The reason for the triangular shape is to indicate that as both the middle classified styles ("Undisciplined" and "Acceptance-Anxious") approach a "Creative" behavior level, they are more and more likely to be similar to each other. Illustrations follow.

For example, an extreme "Undisciplined" style would evidence almost all information (e.g., about reading) coming from internal sources, and almost none from mistrusted or disparaged external sources (e.g., teacher or a "text" not "self-owned"). Theoretically, however, an individual using more internal than external sources would still be classified as "Undisciplined," even if getting a large portion of information from external

sources. (The intent is not to disparage internal information, but to note possible effects of imbalance.) Similarly, an "Acceptance-Anxious" individual, at the higher end of the continuum, would be using more external than internal sources of information (e.g., much prompting from a teacher with respect to comprehension and interpretation). But at the higher end, the "Acceptance-Anxious" may use large amounts of information from internal sources (e.g., risking to draw on own past observation for interpretation of a text). (In the present case, the "text" of pictures forms a sequential, relational story.) To use an analogy of balance scales, the style may be "tipped" in either direction.

As the styles approach the "Creative" end (with better and better balance of information intake), they "tip" less and less to one side or the other. (With respect to prereading or reading activity, the balanced individual trusts and risks internal interpretations while also being open to information from "teachers" and other outside influences leading to a full, rich, and high-level comprehension.) If the middle two styles finally reach a balance (with power to draw much information from many sources), they have, in fact, reached the "Creative" level.

The definition of a relatively characteristic and persistent style as used in this paper is not complete without two clarifications: (1) An individual is not locked into one of these styles forever; (2) There may be intra-individual differences according to context, general mental health at that moment, and a host of other elements outlined in the chart by Dunn (1983). Rosenberg's descriptive work had been done with older children and adults. The present investigator was curious to see if his theoretical constructs could be observed, perhaps as a preview to treatment, first in young, kindergarten-aged children, and just recently in children even younger, down to age 3.6.

What have the Rosenberg styles to do with reading comprehension? Early hints may become more clear after definition of some constructs in reading comprehension.

Reading Comprehension

In defining reading comprehension, the present investigator used five dimensions:

1. An extended response to text. (Recall in the present prereading case, "text" meant the series of interrelated pictures in a wordless picture book.)

2. Conscious choosing. (In the present case, for

example, selecting one interpretation over another, e.g., "The rabbits are waving bye-bye to the dog with a hankie," versus, "They are shaking out the baby rabbit's diaper.)

(Note: an adult "made up" text and a brief synopsis for the wordless picture book used is found in the Appendix.)

3. Applying prior knowledge. This applying process aids the reader in constructing knowledge through comprehension and the consequent reinforcing of it: "Ah, ha, this is what I have seen and known, and here it is again in this text" (series of pictures in our case). Applying prior knowledge does not mean ignoring constraints and relations among the parts of the text. (In our case, for example, a new baby sibling with an endless succession of diapers might have prompted the earlier mentioned "shaking-the-diaper" response.) But in line with the larger context of the text, that response was much less appropriate that the "waving bye-bye" one. That is, the children in this study evidenced comprehension involving bringing to bear their past experience. Thus an integration of new and old information is possible.

4. Literal, integrative, and evaluative processing. Most of the time the preceding dimensions of comprehension involve: (1) literal, (2) integrative, and/or (3) evaluative processing of information from text (in our case, pictures in a wordless picture book). By way of example, it is a literal use of process to comprehend that here, say, the artist represents a rabbit ("Here's a rabbit," says a child literally). (The present investigator came to feel fortunate if she could get the Rigid-Inhibited style child to respond on the literal, concrete level.) But the rabbit's behavior can also be integrated with the other character's behaviors. ("The puppy doesn't see the rabbit. The rabbit is standing way up there watching the puppy follow his tracks.") The rabbits' behavior can also be evaluated, e.g., as playful, foolish, or aggressive (with more or less reasonable comprehension).

5. Problem solving. The present investigator considers problem solving to be a key dimension of reading comprehension. The earlier dimensions of conscious choosing, applying prior knowledge and using literal, integrative and/or evaluative processing of information from text and other sources may all be part of this larger problem-solving process. Isaksen and

Treffinger (1985) have delineated a six-dimension creative problem-solving process with divergent and convergent phases operating in each of the six. They label each of these six phases: (1) mess finding, (2) data finding, (3) problem finding....(In our case, "What did the author of this text mean and what does it mean to me, with as close yet as rich an approximation for me as possible?" or "In what ways might I comprehend this text and which ones have a good fit?") The dimensions continue with: (4) idea (or hypotheses) finding, (5) solution finding, and (6) acceptance finding.

Sometimes the task of solving is highly convergent. There is one right meaning that the author intended and the reader misses the whole point, gaining little or nothing if the one right meaning is not comprehended. Sometimes the reasonable possibilities are many or can be enriched by the reader's store of experience. And sometimes the reader can "read between the lines," seeing what the author really wanted the reader to comprehend. Problem solving in the reading process can be complex (as in the foregoing "read between the lines" idea, or also as in using reading material to solve real-life problems, e.g., bibliotherapy). Complex use of problem solving while reading is hypothesized to be more typical of the

Creative style. Problem solving in the reading process can be as relatively simple as making hypotheses about an unfamiliar word fortunately embedded in a helpful context that enables the reader to find a comprehension solution that is acceptable.

Perhaps another aspect of comprehension is the individual's grasp of and use of story structure, which may be another application of prior knowledge and problem solving. Having a schema for story structure may furnish data to bring to bear on a comprehension problem. In any case, the present investigator next deals with story structure as a separate definition.

Story Structure

The variable of the material in the text is important in examining developmental relationships in comprehending. The variable of the material may also interact with individual style. Consequently the investigator examined some of the literature on story structure or story grammars. (See bibliography in Appendix.) An individual's anticipatory schema for "story-grammar" has been thought to influence a reader's comprehension. It is also thought that children show increasing ability to use story-grammar as maturity increases. It is believed that grasping patterns of

organization can facilitate understanding and recall. Whether or not story-grammar can be taught to young children with any beneficial effects is highly questionable. Examples of instruction are: e.g., macro-close approaches providing a framework with slots for story elements; a series of preliminary questions to structure the story into the expected format, story elements omitted to test inference skills and dramatic role playing for the enrichment of story schema (Erway, 1985).

An example of elements found in a story grammar follow (Mandler & Johnson, 1977). The elements are: setting and beginning; reaction and attempt; outcome and ending. Figure 3 is an attempt to show a story grammar for the wordless picture book used, What Whiskers Did, by Ruth Carroll. (See Figure 3.)

Insert Figure 3 here, diagram of Whiskers story structure

An analysis of the wordless picture book used reveals that young children had to contend with three settings (outdoor, indoor rabbit hole passageway, indoor rabbit living quarters); several characters (child, puppy, fox, and rabbits--presumably mother, father, two

children and baby); several moods; visual perspective problems; reactions; goals; and many related events--some with causality. What appeared on the surface to be quite a simple story line, actually had many complexities when examined closely. The 36 pages of pictures (some double spread) was a time and attention challenge for some of the youngest subjects, especially those with a less productive style. But as an experimental task leaving room for display of high levels of performance, this wordless picture book seemed well chosen.

A further word about style hunches: The creative style individual (or those close to it) is likely to interpret much of the story structure; the Acceptance-Anxious might create more--if not so concerned with trying to please, being a "good child"; the Undisciplined might easily grasp the aggressive episodes and causalities, but often interpolate aggressive events into the story when it is not reasonable in context. (Example from the farewell scene: "He's crying again because he hit him," age: 3.8.) The Rigid-Inhibited is likely to grasp little if any of the story structures.

Questions

The foregoing section on definitions has already hinted at some of the questions in this story. A few

questions related to theories were in mind before the studies started. But as is typical of studies conducted in the manner of ethnography, a good number of the questions emerged on the spot as data were observed, collected, and analyzed.

Some of the questions were:

1. In what ways might style apparently impact on a child's prereading comprehension as triggered by the telling of a story in a wordless picture book?

2. In what ways might development represented by increase in age impact on the first question?

3. In what ways might the material, story structure, nature of the task impact on the first question?

4. In what ways do limitations emerge that complicate the answering of these questions?

5. In what ways might one draw implications, formulate additional questions, and continue such investigations?

Samples and Settings

Although problem-solving samples were drawn for formal published studies as early as 1967, my studies concerned

with style did not begin until Fall of 1979, and none have been published to date. (See Figure 4.)

Insert Figure 4, Chart of Studies, about here.

Chronologically the studies are referred to by school name: Gooch, Lanier, and North Texas State University (NTSU) Nursery School. Gooch and Lanier are both part of the Dallas Independent School System (DISD). Gooch was designated an early childhood center with grades K-3, middle socioeconomic to upper-middle class level. Lanier, K-6, would be classified as low socioeconomic level. North Texas State University Nursery School could only be classified as highly varied, with some of the children coming from University faculty homes, some of the students with very low incomes, and some from middle class parents in the Denton, Texas community. Children selected were apparently normal in range, no severe handicaps or mental retardation, but none near genius level either.

The attitude at Gooch was one of high interest and cooperation, with parents, teacher, and principal as research collaborators eager to furnish data and quite willing to be visited. The Gooch teacher ran the most highly structured classroom, especially in the morning, with "no talking" allowed during kindergarten morning

work times: afternoons were a bit freer. Gooch and Lanier teachers had the same children all day. NTSU varied, with different teachers in charge of the morning and afternoon sessions: some children stayed for one session, some for both. The Gooch, Lanier, and one of the NTSU teachers were highly experienced. The present investigator and assistant "lived" for a year at Gooch (the most ethnographically oriented of the three studies). Approximately three months of intensive work transpired at Lanier aimed at confirmation and validation with low socio-economic levels concerning previous hunches. Approximately three weeks of video tape collecting occurred at NTSU Spring '85 aimed just at collecting varied age and style responses to the wordless picture book task. The present investigator, however, is familiar with the NTSU setting through weekly observations with students in early childhood development courses.

All children in the style investigation samples at Gooch, Lanier, and NTSU were deliberately selected, not selected by random means. Subjects at both Gooch and Lanier were selected only after three weeks of intensive observation by the researcher and research assistant. Also administered was a "Who in the Class" questionnaire designed to match behaviors described by Rosenberg, but

adapted to kindergarten level (in appendix). The teacher's responses were taken into account with the selection. Also, some additional tasks such as classification (to check on level of symbolization) and another task designed to elicit children's responses to supposed animal (puppet) verbalizations matching the styles (Lundsteen, 1980) were used.

A different approach was tried at NTSU. A two-hour lunch workshop was held with the two teachers and director concerning the styles; the teachers were asked to pick children in the age range of 3.6 to 5.5 that they thought might clearly fit one of the styles. The investigator and assistant were to be kept uninformed of the Nursery School staff's opinions until after the video taping of each child offered and until after analysis. The finally revealed match between the investigator's analyses and the staff's opinion was low, an aspect to be discussed further on.

Additional descriptive data on the Gooch children included the DISD readiness tests and, for the NTSU sample, the Gesell School Readiness Screening Test. Both measures tended to confirm that the children selected were in a normal range. Nineteen children were videotaped at NTSU. Some cases simply could not be classified on the

basis of the one picture book response task. Some provided little or no language for judgment.

Methodologies

Before the style studies addressed in this paper, the investigator had conducted experimental studies (e.g., Lundsteen, 1970; Lundsteen & Wilson, 1979). The Gooch study may be classed as employing many ethnographic techniques with respect to its broad, qualitative nature. The Lanier and NTSU work may be considered as corroborative studies, with the NTSU one as the most narrowly focussed--on style, development, and a single task. The chart in Figure 5 (referred to as "Who Gets What When") gives the scope of the varied observations made and varied data collected.

Insert Fig. 5, Who Gets What When, about here.

Actually in the Gooch and Lanier studies, style was considered a relatively minor individual difference variable in the macro focus on development of creative problem solving; and prereading behavior was only a minor concern in a broader cognitive context--along with social and aesthetic contexts for problem solving (Lundsteen, 1983). Although the Lanier study was designed to

replicate as much as possible of what went on during an entire school year at Gooch, much was omitted during our three months' stay. The prereading, wordless picture book task under present consideration was kept and administered to all subjects. This wordless picture book task was the sole concern and subject of observation at NTSU with age-range expanded downward and use of video. The use of the video equipment (Kodak Camcorder 2400) enabled a more fine-grained analysis with repeated playing and replaying of the children's responses to verify impressions. Agreement regarding style was approximately 90% between the investigator and research assistant who had been involved in all three studies.

Earlier mention has been made of the story structure analysis of the wordless picture book and the search for developmental age trends. Anything available on each subject in the studies was kept in a child's file. But the main method with the NTSU sample was to rely on what we actually saw and heard on the video tape as the child performed the wordless book task and relate it to our past constructs on style behaviors and developmental knowledge where applicable.

Since the NTSU children were less familiar with the investigator than were the previous two samples, an

orientation was held for five children at a time in which the camera operator was introduced and the cozy setting tried out. The investigator modeled a telling of a story from a brief selection of another wordless picture book (Bubble, Bubble by Mercer Mayer, Four Winds, 1973). This orientation was not part of the earlier two studies. The role the investigator and assistant played in the two earlier studies was ostensibly that of volunteer. But the role at NTSU was more that of a professor at the institution to which the nursery school is attached. Needless to say the NTSU Nursery School children are used to the intrusion of a wide variety of adults.

Findings, Interpretations, and Suggestions

The findings from the three settings (each in turn) are presented first. Then follow comments on observed developmental trends.

Gooch

The Gooch teacher responded to yet another questionnaire designed to touch on reading readiness aspects that might be related to Rosenberg styles. For example (in order to confirm observation) the questionnaire asked: "During the reading readiness activities you conduct, who tends to panic and gives up easily?" Such behavior would apparently fit a "Rigid-

Inhibited" style. Another question: "Who apparently understands stories well, and responds to questions, producing his/her own response?" It was postulated, for example, that the creative style child would evidence all three: understanding, responding to questions and producing own response. These children showed us that they would do so in a gleeful, joyous way, rather than in an anxious or dutiful way. That is, it was postulated that the "Acceptance-Anxious" would display behaviors indicating apparent understanding and responding to questions, but not necessarily be producing nearly as much autonomous response as the "Creative" style child.

Word meaning task. Just to the Gooch children was administered a word fluency and meaning task. It may be said that comprehension (or readiness for it) is only effective as the concepts (vocabulary) that one brings to the task. In any case the present investigator and assistant devised a task wherein we took concepts or words implicit in the wordless picture book (What Whiskers Did), arranged these words in order of easy to more difficult (or more typically unfamiliar and complex concepts) in order to obtain a range. We asked each of the children in the Gooch sample to brainstorm all the associations that they could for each word, e.g.,

child, fight, family, snow, love, darkness, farewell. We were influenced by the Cleland (1980) study and randomly assigned the order of presentation of our selected words to the children. We asked the questions: "Would the children which we had determined had different styles respond in ways matching their styles? And, if so, what might their response say to us about readiness for reading comprehension?"

Rigid-Inhibited children had trouble keeping their attention on the original word presented. For example, with respect to the word family, response went from "brother," to "birthday," to "swimming," to "footfall," in spite of repetition of the cue word. Vygotsky's (1962) idea of chaining in concepts of young children (as opposed to discriminating significant attributes, examples, and nonexamples) seemed to be working here in the Rigid-Inhibited style. The two cases of Rigid-Inhibited children were likely to have trouble with simple literal comprehension while holding to a train of thought sufficient to comprehend. Note the following example:

Investigator: "What do you think of when I say snow?"

Rigid-Inhibited Style Child: "Grandmother...house

covered. You have to take my grandmother shopping. She doesn't have a car."

Rigid-Inhibited style children seemed to have repetitive answers and a narrow range. For example, in response to the word visitor one such child said: "Friend over eating lunch with you, having dinner with your friend." Finally, responses to this task tended to be highly concrete, e.g., in response to the word love, "having dinner together."

Undisciplined children tended to avoid personal meanings for highly emotionally-laden words of a positive nature. For example, in response to the word family, one of the children so characterized said, "Fan, fry, elf (thinking in terms of the /f/ sound), and ducks in the water." But the two Undisciplined children at Gooch had rich meanings for the negatively laden word fight. One response was: "Punching, Dracula, ghost, might hurt each other, telling..." etc. (Further confirmation was found in the wordless picture book task, to be discussed next.)

Acceptance-Anxious children, both cases at Gooch, appeared threatened by the prereading tasks (in spite of the fact they had had the investigator and assistant around for three-fourths of the school year). They were not spontaneous: "Let me think a minute," one would keep

repeating. In response to the word child, they gave language indicating keenness in being accepted and in getting along with others (along with non-verbal indicators of anxiety, wrinkling of brow, twisting of hands, etc.)

Creative style children grasped the word meaning task immediately. Responses poured out with fluency and with a large range of associations. Perhaps most importantly, they were apparently having an enjoyable time, displaying non- verbal behaviors such as smiles, approach body movements, etc. If they went off on a tangent, they stopped to draw the connection. (Creative style individuals are typically skilled at "snatching victories from defeats.") These creative children could turn a story telling miscue that they caught and make it a part of the story. An example of relative increase in readiness to use abstractions (higher level of symbolization) was this Creative style child's response to the word love:

Creative style child: "X, O."

Investigator: "What do X and O mean?"

Creative style child: (With a twinkle in his eye) "X means kisses: and O means hugs."

Or consider a creative child's response to the word

darkness (fluent, descriptive, almost poetic, and with a somewhat cumulative arrangement of ideas): "Scary, warm in your bed, sweet sounds, lying down and thinking of things, dreaming you can do anything you want." (Note the child autonomy.) The children typically evidencing this creative style did not deny scary feelings but also had a balance of positive associations.

This task was not used in the other two settings. Except for the Creative style children the task seemed tedious to most, lowering validity perhaps, and did not reflect the intended definition of "text," a one-word stimulus being too limited. But there did seem to be a match among the responses to this task and the next, the wordless picture book task.

Wordless picture book task. For the Gooch sample, we originally selected two wordless picture book classics for the children to choose from (later samples had no choice, only the first book): What Whiskers Did and The Chimp and the Clown (both by Ruth Carroll). Instructions were the following: "I want you to look at these books and choose one of them. At the end, I want you to tell me the story of the book you chose. You can look at the books; you can ask me questions about them; we can talk about them." (Pause for perusal.) "Now, I'd like you to

tell me the story." Since all of the children in the Gooch study chose Whiskers, only one book was offered in the next two studies. How did the children typically demonstrating certain styles respond to the task of comprehending the picture story? In what ways could we draw implications with respect to each style for reading readiness?

Rigid-Inhibited children, who had trouble getting started and needed prodding, were also relatively highly concrete: "There's a rabbit; there's a rabbit; and there's a rabbit." They had great trouble in relating one event to the next. When they did relate, they often misinterpreted events (They're changing the baby's diaper.") Rigid-Inhibited children tended to stick to the literal level of comprehension more than the other children.

Implications? Suggestions? Some children showing Rigid-Inhibited style just need to grow more and feel more secure; some need a more facilitative home life; most need to start in class with structural supports, a one on one work setting. (See Figure 1.) Children showing this style much of the time are probably at risk regarding an effective start in reading comprehension. A few may have already decided to give up trying and need

much encouragement from all, but not pity, and not giving up on them.

Undisciplined style children failed to comprehend the positive social aspects of the wordless story even more vividly than in the behaviors during the word meaning task. But they strikingly comprehend the initial fighting aspects. (Responses to the dog and the snarling fox scene might be: "They're fighting;" "The fox is going to eat him up.") With regard to the social aspects of inviting-to-dinner scenes, the Undisciplined children simply did not comprehend the situation (Undisciplined responses: "They are looking at carrots," or "The bunny knocks over the plate.") The Undisciplined style children could not grasp that the rabbits were sorry to see the dog leave. They had failed to interpret all the other positive human relations leading to this inference.

Undisciplined child in response to the farewell scene:

"The baby rabbit is crying and the other one is having a stroke."

Investigator: "Why?"

Undisciplined: "I don't know."

Implications? Much material in beginning reading has a positive social context. A child with this

Undisciplined style is apparently at a disadvantage with respect to performance with material containing social amenities (and with adult "demand for performance".) Giving such a child some choices so that information can come from within and letting the child first work reading comprehension on material chosen. Even material with conflicts and other material close in to the child's experience may make for a more successful reading comprehension start that would carry such a child through some of the unavoidable drudgery. (Do these ideas suggest implications for Language Experience Approaches to reading?)

Acceptance-anxious style children (the largest percentage typically found in classrooms) confirmed their worried behavior when encountering the alternative book, The Chimp and the Clown. "Oh, oh, they're in a lot of trouble!" (In contrast to the Acceptance-Anxious children, both the Creative and the Undisciplined apparently enjoyed the pretend problems or challenges of the chimp characters and others.) The Acceptance-Anxious were uncertain of the task: "But I don't know how to read!"; "I can't think how to begin!" They would freeze up in front of our audio tape recorder, although such a machine is rather commonly used.

Once started, these children made a sensitive, comprehending, and integrative set of responses. But anxiety, uncertainty, and attempts to rely on our authority and information continued as a recurring and plaguing behavior. For example: (Pointing at picture and looking with concern at us) "What do you call that thing?" (Blindfold); "Is that a boy rabbit or a girl?"; "Oh dear, I don't know what game they are playing." (Child bit lip and looked at investigator, who offered no right answers.) Child took a deep breath and gathered courage: "I guess it's hide and seek." Children without this Acceptance-Anxious style relied more on context, had some trust in their own hypotheses, worked their way around not knowing one particular thing in order to keep the story moving.

As a possible implication for beginning reading comprehension, Acceptance-Anxious style children may have trouble in taking the risks needed to get words and thoughts from context. They may need help in daring to use contextual clues on their own.

Both of the Gooch Acceptance-Anxious style children under intensive study, however, seemed to comprehend sensitively the feelings of others. In response to the initial confrontation of the puppy and the fox, one said,

"The doggie sees the fox and is scared."...(Later one said), "I think the bunnies like the dog." Readily grasping the social farewell scene one responded: "The bunnies are crying because the dog's leaving." (Recall the contrastive response of the Undisciplined child to this scene.)

Implications? It might be well during beginning reading instruction to build on this child's strengths in using contexts for comprehension where the comprehender can shine successfully in interpreting the feelings of others. And language experience and self-selection approaches might encourage the Acceptance-Anxious child to use more autonomy so that locus of information is more balanced, both from within as well as from without. Other ideas are: encouragement in the evaluative aspects of comprehension, lessening external sources of evaluation while encouraging the child to substitute self-evaluation; encouraging such children to set up their own reading comprehension goals; giving the least possible help (just enough to prevent frustration). Finally, one might consider pairing the Acceptance-Anxious style child in cooperative ventures with the next style, the Creative, in case some of the joy, fluency, divergence, innovativeness, inner voice,

and balance might "rub off."

Creative style children, nodding a head, were typically confident about the projected wordless book task from the outset. In fact they were hard to keep up with, carrying themselves right along autonomously, caught up in the sequence, flow, and interplay of events. For example, with respect to the scenes of the puppy playing with the rabbits both Creative style children at Gooch comprehended the situation immediately. On the next to last page the Creative children comprehended that the bereaved child owner was sad (not mad, as an Undisciplined child had surmised.) The Creative style children used the context, the flow, integrated the interrelations, and were not blocked by too concrete a detail. Yet they could comprehend the more subtle behaviors (for example, the rabbit family offering the puppy dinner).

The Creative style children at Gooch could hold more that one cognitive variable in mind and more than one emotion in mind. Piagetian work has described for us this level of mental functioning essential to concrete operation, and essential to many of the multiple and almost simultaneous syntheses of tasks in reading comprehension. For example, one Creative style child

would not only laugh at the humor, but could at almost the same time be sympathetic to the multiple dilemmas in the alternate wordless book ("Poor Chimp!").

In essence, Creative style behaviors during this task reflected: capabilities of being relatively abstract in thought, independent yet sensitive to others; use of adult resources balanced with use of own, learning without trauma from risks and mistakes; and keen enjoyment of learning contexts.

Implications and suggestions might include providing much opportunity for innovation, originality, independence, divergent thought and use of intuition while engaged in reading comprehension. Adults can be ready to accept and encourage unusual ideas and new solutions--divergent thought first and then convergent thought.

A child with such a style may be free to be a most sensitive, all-round comprehender, excellent in literal, integrative, and evaluative processing of information, doing it joyfully, and putting it to good use in creative problem solving. An aim might be to help bring as many children as possible along toward this style. For example, one of our Rigid-Inhibited style children surprised and delighted us by meeting the two-book choice

with: "I've got a book, too!" And he dashed off to get his copy of Emberly's ABC book he'd brought to school. In rendering it to the investigator, he totally missed the structure, the book's plan of the character on each page forming a letter, but such risk taking and beginnings of combining inputs from without and from within and a gleeful attitude, may have started him on his way to a more productive style and toward more productive comprehension. (The teacher said she thought every classroom should have a couple of researchers in it.)

Lanier

Could what we thought we had seen at Gooch be replicated with more cases at Lanier? And would a lower socioeconomic level impact on the consistency of style we thought we saw over the year at Gooch? In what ways might the teacher variable come into play? These were some of the questions that we had and that evolved as we entered the Lanier school setting the next year, with a constraint of approximately only three months total time for investigation.

Briefly, what did we find? As the lives of these less protected children were less stable, so was their style: fortunately for some, negatively for others. Coupled with the high skills of the teacher, we saw one

case, reported to be highly Undisciplined at the beginning of the year move to a far more Creative style at the end. We saw a Rigid-Inhibited style child display unexpected creative thought in response to solving a puppet's problem, only to slip back into an inhibited style. We did not seem to see the heights of Creative style exhibited at Gooch; in fact, determination of style was more difficult in the first place with many children showing a mixture. But using those Rosenberg constructs in cases where we could, we did record responses to the wordless picture book task that were more confirmatory than not. Four children who were judged to be on a lower level of problem solving behavior had 14 cases of misunderstanding of the story. Example: "Then the fox dug a hole and the fox got away." (It was the rabbit and dog that got away.) These were the first cases where the children thought there were two dogs and two children (a more typical error in the NTSU nursery school with the three- and four-year-olds). The higher level styles of problem solving had far more causality in the telling and flavor. Example: "He howled at last. 'Hoo, hoo,' he was crying. He wanted to be with somebody."

Contact with parents, an important source of

information, was far more limited in the low socioeconomic setting chosen. When a child's style, say Creative, is reinforced by the parents and by the teacher, and traumatic events are not a factor, style is more likely to be stable.

Still not feeling that we had definitively validated the Rosenberg constructs at the kindergarten level, being curious about the developmental aspects of style through a broader range of young ages, and seeking more validity of the wordless picture book task as a prereading comprehension observation task, we next set up video taping equipment and an inviting spot with sheepskin rugs, bright cushions, and a screen at NTSU Nursery School.

NTSU Nursery School

What happens when you are only 3.5 years of age and are confronted with the telling of the story in a wordless picture book? First of all, will you respond at all? And if so, do you exhibit behaviors that relate to styles shown by somewhat older children? Do you act inhibited, undisciplined, acceptance-anxious, creative? How much is attributable to the fact that you are only 3.6 or 4.6 and all of the behaviors typical of the varied styles may be more in flux, even moment to moment in your

life? And could it be that even the lowest of the styles is actually quite normal for you at times? Is the challenge of 36 pages of actually rather complicated story structure in those child, dog, fox, and rabbit pictures too much for your 3.5 or even 4.5 years of age? Can long shadows of the "reading comprehender" you might become already be visible in your responses? These are some of the questions we had and that evolved during this phase of the investigations.

Three aspects come together with some patterning: age (or simply development, especially with respect to verbal production), style, and the story structure of the task.

Developmental aspects. Not surprisingly the stories produced grew longer from ages 3.6 to 5.5. In this sample there appeared to be a noticeable jump of about 100 words after age four (with the stories of the 3-year-olds running an average of about 100 words). This relatively small amount of language set a ceiling on what we could observe from their tales that might indicate style.

Younger children in this sample were more likely to use one or two words, often not expressing complete thoughts. For example, L. (age 3.6) said in response to the opening pages, "A puppy. A girl." An older child, J.

(age 4.0) said, "That boy was out walking and his dog found some tracks."

Younger children before age four in the sample were willing to look at pictures without verbalizing. Frequently they appeared interested in the wordless picture book and acted as though they were following the sequence of the pictures. But they said nothing. What were they thinking? Puzzled by the events, were they trying to figure them out, or did they want to see what happened next and did not wish to be slowed down by talking? Or were they simply not aware of an audience? It was difficult to tell. While older children also skipped talking about some pages, they did so in such a way as to continue the flow of the story. Typically fours and older were verbalizing briskly, turning pages quickly. The younger child, by contrast, might pensively study a page, then turn the page, pause again, apparently forgetting that they were <u>telling</u> a story.

Younger children seem to have less of a sense of story. For example, while younger children seem to simply describe pictures, the older children tell a story, attempting to synthesize pictures into a sequence. In this respect, three-year-olds' stories contrast greatly with the four- and five-year olds' versions.

Younger children tend to misinterpret the story in a more noticeable fashion. Perhaps this difficulty is related to their describing pictures individually. L. (age 3.6), for example, claimed that, "The bunny is crying because he wants his mommy." Older children readily interpreted the causal relationship that the little bunnies were sad because their doggie friend was leaving. This age 3.6 child's cause-effect thinking was reasonable enough, if one only looked at one page where a wide range of possibilities could exist. In the whole context of the story, however, the older children's interpretations were far more reasonable. Furthermore, a common misunderstanding among the younger children rendering this story was to think that there were two dogs and two children at the beginning of the story. This doubling would be true if the page on the left and the right were <u>not</u> taken in sequence, but intended to be one double-page spread, or large picture.

Younger children seemed to use more concrete responses. Example: K. (Age 3.6) "Look at that dog." "Fox." This manner of responding may be related to their discontinuous way of describing pictures, and their short one- to two-word responses.

Fewer story conventions were used by the younger

children. Whereas a younger child might start, "A doggie. The leash broke," (C.,age 4.2), and older child might say, "Once upon a time ago..." (G., age 4.10). Also less dialogue was used by the younger children; in fact it was non-existent until the narrations took on some shape and became more mature stories. Example (L., age 3.6): "The bunny is at the tree. The wolf is here." An older child (G., 4.10) increased the sense of story by taking some relatively uneventful pages (7,8) and saying, "And the rabbit said, 'What happened to your little puppy?' 'Well, he ran off and the rope split...'" This same child used the word "We-e-l-l" with rising and falling inflections to hang on to the continuity of the story while taking in information and preparing to connect it in the story. J. (4.3) used story book diction (p. 25), "Everything was fierce. Everything in the world."

Did performance on the wordless picture book task tend to show distinguishable aspects of style, even in these young children? Although no interaction of age and style could be readily determined (since fluctuating between being rigid-inhibited, undisciplined, acceptance-anxious, and creative, almost from hour to hour or even less, may be part and parcel of growing up),

style was discernable in the taped behaviors for that period of time and in that context.

Rigid-Inhibited behaviors took several forms from the youngest in this category to the eldest. One child (J., 3.10), so classified by the teachers, who generally preferred to play alone, was difficult to entice into the taping location, was the only child not to smile for his picture, appeared somewhat tense and inflexible in not commenting on the story book, and made but a few, one-word responses to prompting with an alternative book. Evidence of this style was revealed in an older child (E., 5.2), so classified as Rigid-Inhibited by the teachers. He gave an almost word-by-word delivery, emphasizing getting everything right, correcting the investigator somewhat sternly when she failed to repeat something he had said correctly. In general, children of kindergarten age thought to be Rigid-Inhibited showed responses typical of younger children, e.g., concreteness, many miscues, less verbalization, less well-chosen words, and less flavor.

Recommendations might be to have warm story-telling sessions that highlight the pleasure and joy of books--fun, relaxing, with humorous material, choral responses and dramatic play to follow up. The task is

best broken down to small steps, more modeling starting with a very short book. Cases of style in this rigid-inhibited category were extremely difficult to identify on the basis of wordless story book performance simply because the children were too inhibited to say much of anything to analyze. Reliance was more on non-verbal manifestations. In this sample, there were not many cases of this unattractive learning/solving style with such few resources.

Undisciplined behaviors also took several forms. J., so classified by the teachers, with a scant 74-word story (age 3.6) started: "He's got a stick (it is really a leash). She's got a dog there. But that mean one wants to chase that dog. He didn't hear. And the wind was blowing her away." Actually, the child falls when the leash breaks. Using a rather scrambled and impulsive manner, he apparently ignored many parts, and inserted others, such as, "They're going to have a birthday." This child could describe something of a picture when asked, and if he chose to answer. He seemed to enjoy seeing the predatory fox. At one point during the taping he drew his hand back in what might have been an aggressive manner, but softened the gesture. He lolled around towards the end of the story saying, "It's a long book," apparently

having lost interest in continuing to tell the story. One is tempted to predict shadows of reading comprehension difficulty unless his style can be altered.

A child (J., age 3.8, relatively verbal) used indicative words: "tore it;" "fox going to eat dog" (repeated); "fire" (when looking at the picture in which food is being cooked); "baby killed him" (actually a game is being played); "hit;" "mad." Two others (J.,3.6, and T.J., 4.6) simply refused to respond with words, being unwilling to interact with the book.

Suggestions: Having a number of alternative books, some of which would fit the child's known interests might start productive behaviors, as might limiting length and distractions.

Acceptance-anxious behaviors looked much the same for the threes and fours. Again nonverbal behaviors were the cues. L., a 3.6 case who had volunteered herself repeatedly to come, managed to keep her hand in or near her mouth most of the time, while repeatedly looking at the investigator, as if checking with her, not so much as a means of mutual enjoyment. This is the case that said, "The bunny is crying because he wants his mommy." At one point when the investigator queried just to hear better, she changed her response from, "They're eating

breakfast," to "They're eating lunch," as if she felt she needed to correct her answer for the investigator, not for herself. K., a child of 5.5, would shake her head as if self-criticizing, "I didn't know what to call it." This child appeared relieved at the end, as if she had fulfilled an outside obligation, and that the story had no intrinsic worth for her.

Suggestions might be to give such children opportunities to think independently about stories, predicting outcomes and appraise self favorably rather than habitually depending on others. Adults who model sheer joy in reading can be a positive influence.

Creative style behaviors were fun to observe during this task. To a certain extent, past experiences with creative story telling were reflected in these children's behaviors. That is, someone apparently read to them with verve and sparkle, a lot. Self-imposed attention spans were long, even in the 3.6 and 3.8 year-olds. C. (4.2) said, "The fox is sniffing in the rabbit hole." "Look! He stuck his head through. I think he's stuck in there." (Note tentativeness.) The creative style child handled distractions well. For example, C. (age 4.2) said, "I think there's a game in there," looked back toward the classroom, smiled and returned to the book and the task

at hand. "There's another book," said this same creative one (as judged by teachers) at the end, as if ready to continue with another book. Another case (J., age 4.3) was verbally very fluid, expressive with well-chosen words. She used the word "fierce" to describe the fox. "The dog's name was Whiskers and the girl's name was--Lauren." "They played 'slide off the dog'," thus inventing her own name for a game. She enjoyed humor: "They all ate carrots, even the dog!" G. (age 4.10) snatched victory from defeat after thinking there were two children and two dogs at the beginning of the story. He explained why there was only one girl and one puppy later on in the story by saying that the other pair were "home having breakfast."

These children are rarely standing in their own way. They have natural peaks and valleys, but they have many resources. Learning to read is a lengthy developmental process and they are well on their way as far as learning/solving style. Their style should serve them well in reading and in any other area. Early well-planned environments can help to continue this productive comprehension.

Limitations

A few of the limitations of these studies are the

following. The Rosenberg constructs are relatively untested. The ethnographic-oriented methodologies, where the investigator is the instrument, bring limitations. Time constraints (especially of the last two studies) were a limitation, as was the narrowness of the last study.

Determining style is a tricky business. The slice of behavior at NTSU apparently showed some of the otherwise undisciplined children (as seen by their teachers and some students) on their best and most creative behavior. Two hours of training teachers in picking children who rather typically display a certain style may not be enough. Moreover, when you are age 3.6, it may not matter what style you show during this 15 minute segment of your life, because you may respond to life quite differently the next 15 minutes.

Several principles of early childhood education were violated. Not giving choices of material violated one. Asking children for comprehension behaviors "on demand" may get about the same results as for written composition "on demand"--not nearly as creative, autonomous, self-owned and extensive a text as when the time and place are of one's own choosing.

Limitations notwithstanding, the investigator has

learned a lot about young human nature; and maybe even seen some roots of reading comprehension and the forces that impact on it, including style, material, teachers and parents.

Suggestions for Further Study

Of the many possible suggestions for further study related to prereading and reading comprehension and style some are: (1) longitudinal following of students showing an identifiable style and interrelations with beginning reading and subsequent phases of reading; (2) style and reading comprehension behavior in six, seven, and eight-year-olds; (3) interventions to bring a young child along to a most productive style; (4) development of educational programs for parents and teachers regarding style.

Summary and Conclusions

Three studies were conducted yielding some information for understanding young children's learning/solving styles, with implications for the beginnings of reading comprehension. Some data were collected through examination of responses to a wordless picture book. The constructs of the Rosenberg styles received some validation; the impact of materials received some description, and a developmental range,

mainly ages 3.6 to 5.5, received some delineation. What do we know that we did not know before? That style is traceable down to an early age; that it can persist and it can change; that it does have an impact on one's display of comprehension; that manifestations of the same style varies somewhat among younger subjects and older ones; that it may well be considered among the variables impacting on reading comprehension, especially when comprehension is viewed as creative problem solving.

References

Carroll, R. (1965). What Whiskers did. New York: Walck.

Carroll, R. (1968). The chimp and the clown. New York: Walck.

Cleland, P. (1980, April). Word consciousness, meaning and learning to read. Paper presented at the conference of the National Council on Measurement in Education, Boston.

Dunn, R. (1983, March). Learning style and its relation to exceptionality at both ends of the spectrum. Exceptional Children, 49, 496-506.

Erway, E. A. (1985, March). Message reception in listening and reading. Paper presented at the International Listening Association, Orlando, FA.

Gentile, L. M. (1985). Remedial reading: A question of will as much as skill. In L. W. Searfoss & J. E. Readence (Eds.), Helping children learn to read (pp. 408-427). Englewood Cliffs, N. J.: Prentice-Hall.

Isaksen, S. G., & Treffinger, D. J. (1985). Creative problem solving: The basic course. New York: Bearly Limited.

Lundsteen, S. W. (1970). Manipulating abstract thinking as a subability to problem solving in the context of an English curriculum. American Educational Research Journal, 7, 373-396.

Lundsteen, S. W. (1980, April). Measurement for creative problem solving in kindergarten children. Paper presented at the conference of the National Council on Measurement in Education, Boston. (ERIC Document Reproduction Service No. ED 136 131)

Lundsteen, S. W. (1983, September). Problem solving of Swedish and American children. NCTE International Assembly (Newsletter of the National Council of Teachers of English), pp. 14-19.

Lundsteen, S. W., & Wilson, J. A. (1979). Training of children's problem-solving processes and subabilities: Permanency of gains. Educational Research Quarterly, 4, 41-49.

Mayer, M. (1973). Bubble bubble. New York: Four Winds Press.

Rosenberg, M. (1968) Diagnostic teaching. Seattle: Special Child Publications.

Vygotsky, L. (1962). Thought and language. Cambridge: Massachusetts Institute of Technology Press.

From: Lundsteen, S. W. Guiding Young Children's Learning. McGraw-Hill, 1981. (with N. B. Tarrow)

FIGURE 1

DELINEATION OF FOUR LEARNING STYLES INCLUDING CHILD VARIABLES, CHILD AND PARENT BEHAVIOR AND SOME SUGGESTED CHILD TREATMENTS

LEARNING STYLE	LEVEL OF SYMBOLIZATION	LOCUS OF INFORMATION	TYPE OF PARENT	CHILD'S BEHAVIOR	SUGGESTED CHILD TREATMENT TECHNIQUES
RIGID-INHIBITED	Concrete	Very little (from trusting self) internal or external (little from trusting others)	Authoritarian (constrictive and controlling)	Rigidly follows rules, cannot get job done unless helped; submissive to authority	Encourage ability to function independently. 1. Give concrete explanations, but develop ability to generalize gradually. 2. Provide structure, but encourage child to develop own alternatives (structure). 3. Explain why & encourage child's ability to understand reasons. 4. Use simplification techniques.
UNDISCIPLINED	Functional and moderately abstract	More internal than external	Inconsistent (total direction or none at all)	Disrespectful or negativistic with authorities; breaks rules says, "I won't"; attempts to manipulate; aggressive	Encourage child to control behavior within socially-accepted limits. 1. Set limits; use logical & natural consequences. 2. Maintain a personal relationship, without rejection. 3. Provide feedback on child's behavior & use peer group to provide feedback. 4. Provide opportunities for independent, creative projects of child's choice.
ACCEPTANCE-ANXIOUS	Moderately abstract (anxiety interferes with functioning) Verbalizes conventional concepts	More external than internal	Child-centered (main goal is child's happiness at price of pleasing the parent)	Looks for constant reinforcement; tries hard, meticulous; does something because you want him/her to	Encourage child to set his/her own goals, plan procedures & evaluate results. Achieve emotional independence. 1. Give child support & acceptance. 2. Remove external sources of evaluation; child evaluates self. 3. Provide feedback in an unemotional & impersonal manner--reflecting on achievement, not on person, (Child sees value of self.) 4. Give some leadership roles.
CREATIVE	Abstract	Both internal and external	Creative problem-centered (structure, warmth, respect, fostering independence)	Works independently; uses adults as resources; learns from mistakes; thinks for self; sensitive to others enjoys learning	Encourage child to continue in problem-solving process. 1. Provide maximum opportunity for creativity, independence, divergent thought & use of intuition. 2. Be ready to accept uniqueness, unusual ideas & new solutions.

Source: We are greatful to Dr. Earl J. Moore, Associate Professor of Education, University of Missouri—Columbia, for his adaptation of Rosenberg's ideas (Rosenberg, 1958) and his incorporation of related styles of parenthood and related treatment techniques; and to Carol Mason Wolfe for her work in developing this table.

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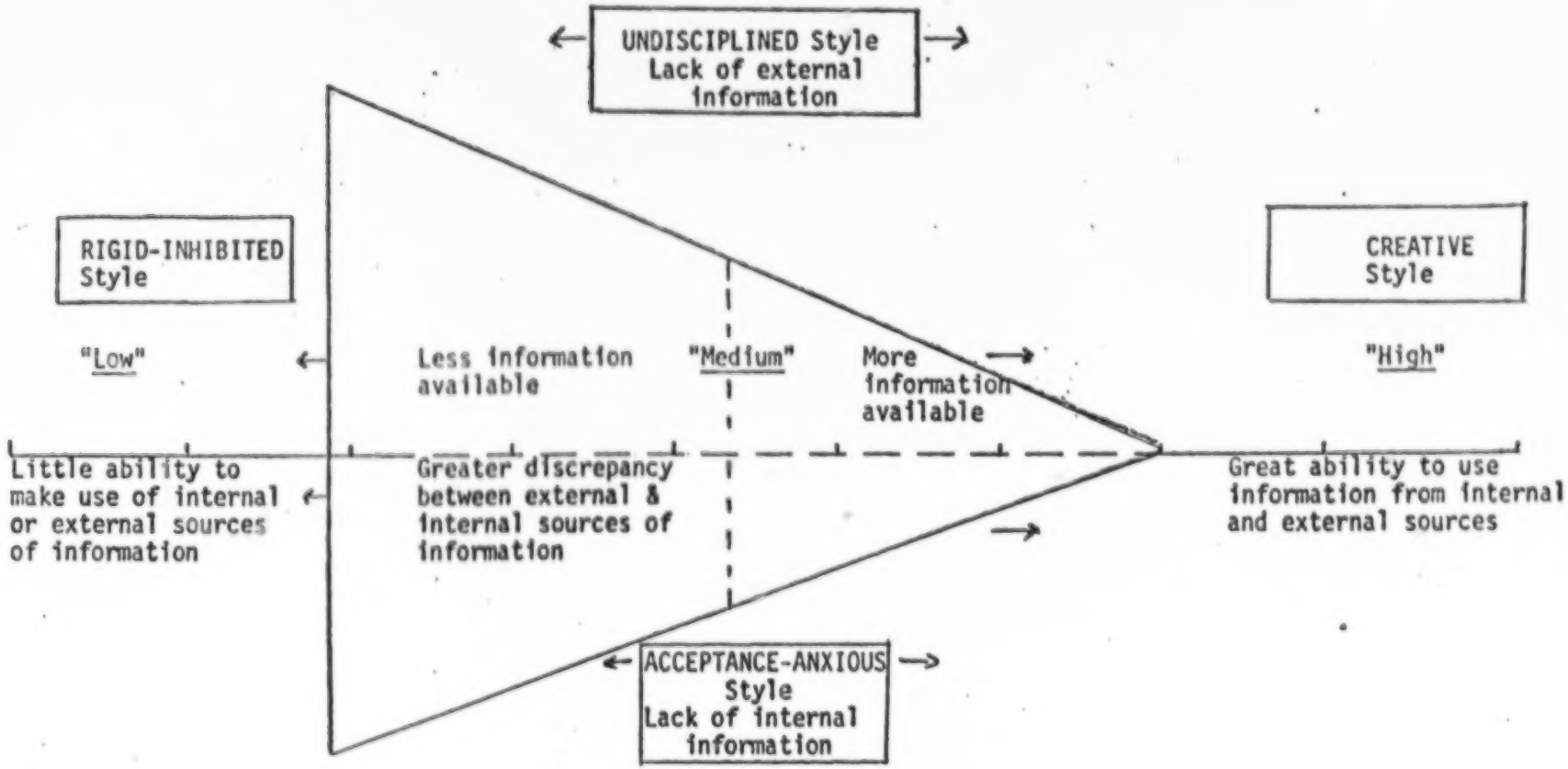
Figure 2

DELINEATION OF RELATIVE POSITION AND DIRECTIONAL MOVEMENT OF LOW, MEDIUM, AND HIGH PROBLEM-SOLVING POTENTIAL FOR FOUR LEARNING STYLES

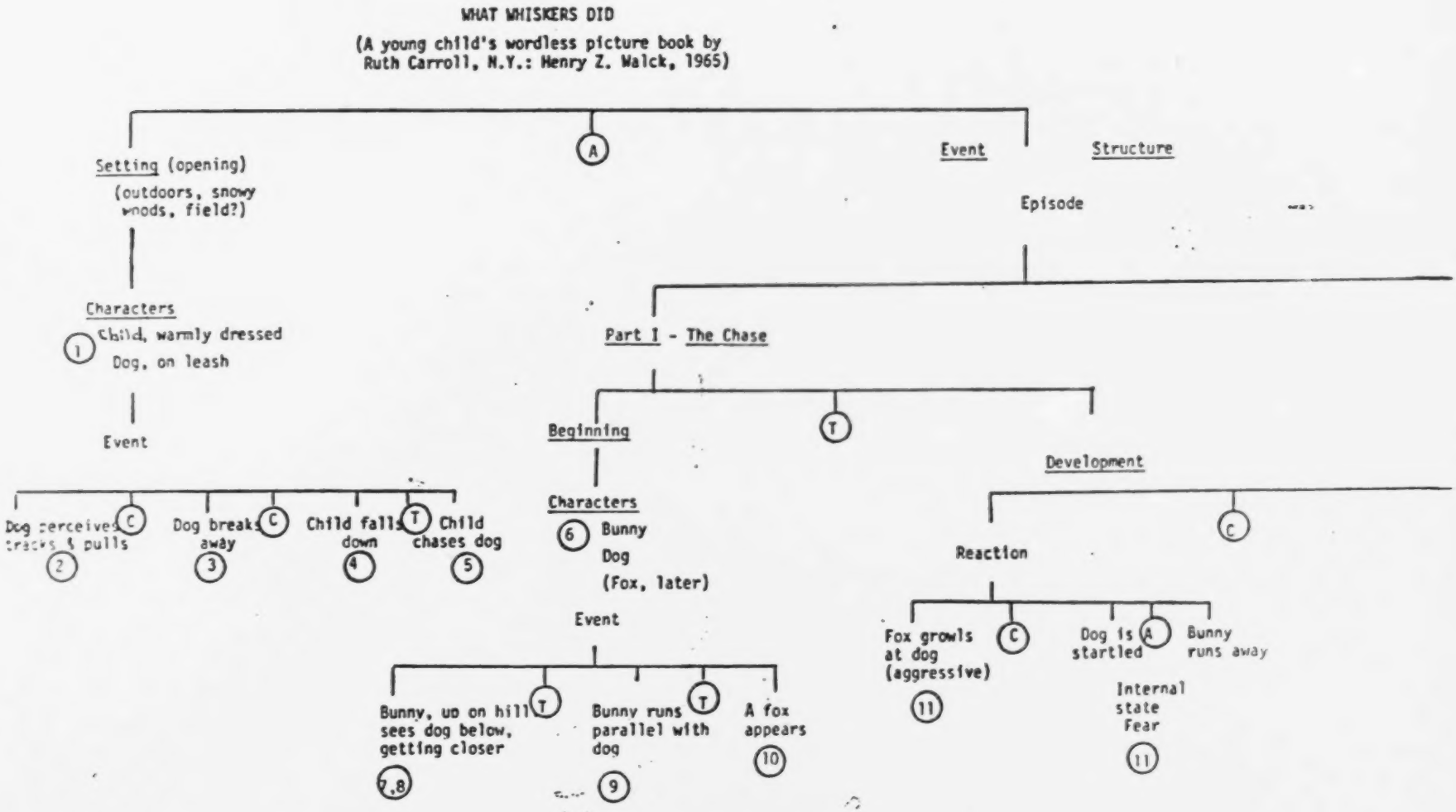

UNDISCIPLINED Style
Lack of external information
RIGID-INHIBITED Style
CREATIVE Style
"Low"
Less information available
"Medium"
More information available
"High"
Little ability to make use of internal or external sources of information
Greater discrepancy between external & internal sources of information
Great ability to use information from internal and external sources
ACCEPTANCE-ANXIOUS Style
Lack of internal information

→ =Possible movement toward extremes of highs and lows, depending on balance of degree of information inputs. (Based on ideas from Rosenberg, 1968)

Lundsteen

Figure 3 Diagram of Story Structure

(Note: After Mandler & Johnson, 1977, p. 119. the connections and, then, and cause have been abbreviated to A, T, and C, encircled. The numbers under the terminal nodes refer to the story's surface statements.)



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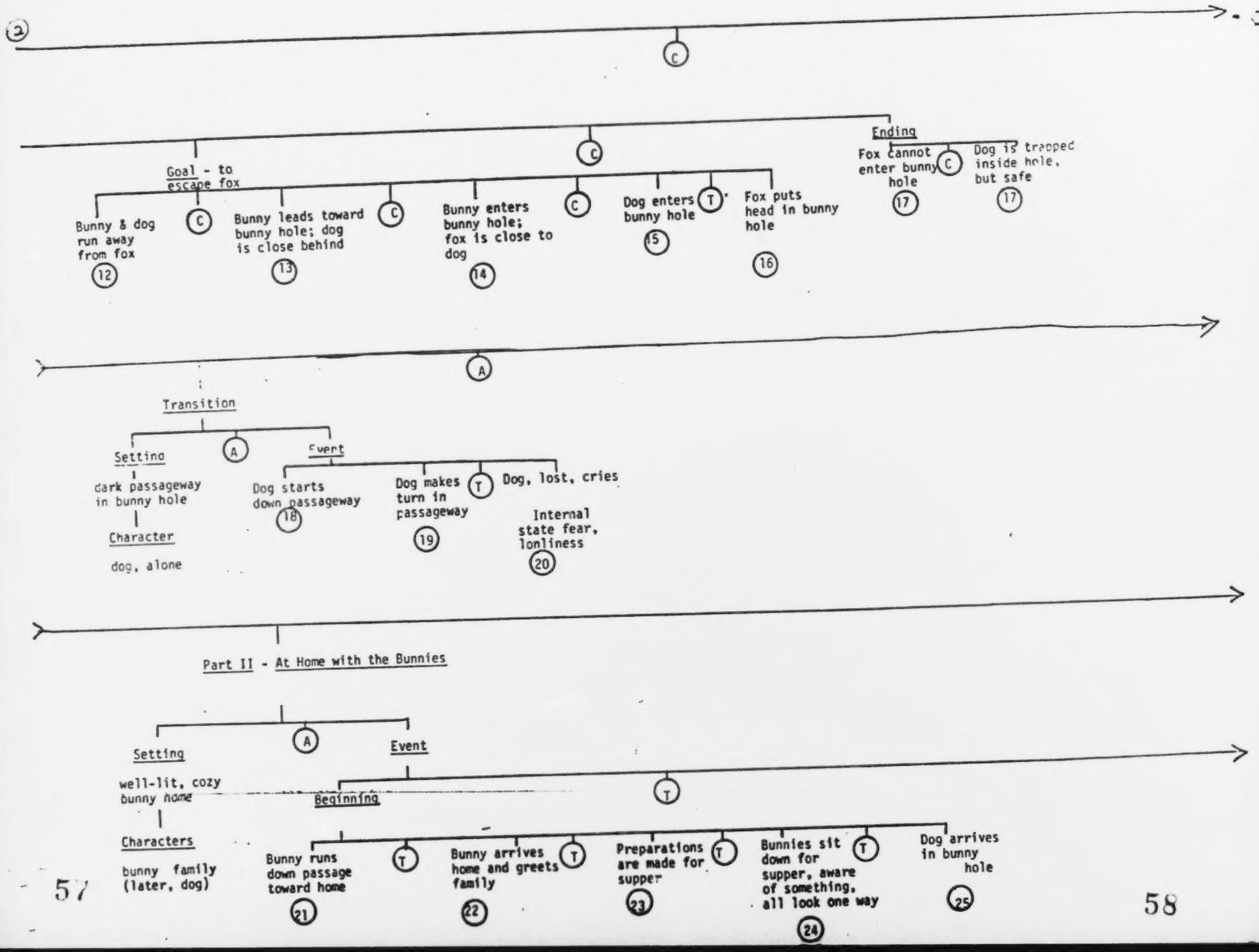
(2)
C
Goal - to escape fox
Bunny & dog run away from fox
(12)
C
Bunny leads toward bunny hole; dog is close behind
(13)
C
Bunny enters bunny hole; fox is close to dog
(14)
C
Dog enters bunny hole
(15)
T
Fox puts head in bunny hole
(16)
Ending
Fox cannot enter bunny hole
(17)
C
Dog is trapped inside hole, but safe
(17)
A
Transition
Setting
dark passageway in bunny hole
Character
dog, alone
A
Event
Dog starts down passageway
(18)
Dog makes turn in passageway
(19)
T
Dog, lost, cries
Internal state fear, lonliness
(20)
Part II - At Home with the Bunnies
Setting
well-lit, cozy bunny home
Characters
bunny family (later, dog)
A
Event
Beginning
T
Bunny runs down passage toward home
(21)
T
Bunny arrives home and greets family
(22)
T
Preparations are made for supper
(23)
T
Bunnies sit down for supper, aware of something, all look one way
(24)
T
Dog arrives in bunny hole
(25)

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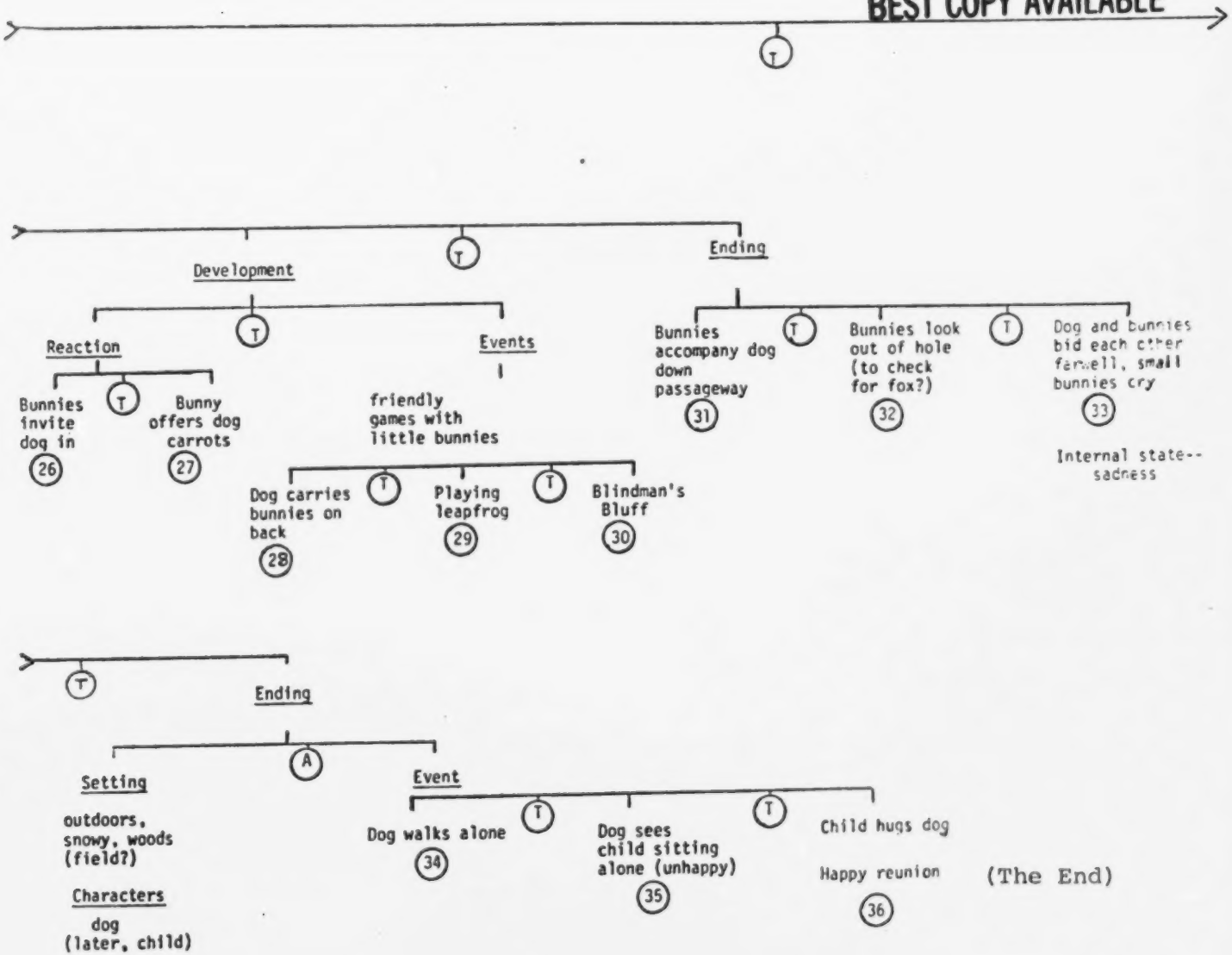

(Note: After Handler & Johnson, 1977, p. 119. the connections and, then, and cause have been abbreviated to A, T, and C, encircled. The numbers under the terminal nodes refer to the story's surface statements.)

Figure 4

CHART OF STUDIES

AGE	COUNTRY	
	AMERICAN	SWEDISH
OLDER	Problem Solving Level: 5th grade Age: 10 Place: Santa Barbara, CA (30 classes)N=900 Date: 1967-68	Problem Solving Level: Equiv. 6th, 7th, & 8th Grades Age: 10, 11, 12 (Same Children) Place: Gothenberg (2 classes)N=60 Date: 1974, 1975, 1976
YOUNGER	Problem Solving & Style Level: Kindergarten Age: 5 Places: Dallas, Texas Gooch Public School (1 class)N=10 Date: 1979-80 Lanier Public School (1 class)N=10 Date: 1981	Problem Solving Level: Kindergarten Age: 6 Place: Gothenberg Private Schools (4 classes)N=21 Date: 1978-79
STILL YOUNGER	Style Level: Nursery School Ages: 3.6-5.5 N=19 Place: North Texas State University (NTSU) (2 classrooms) Date: 1985	

Fig. 5 MEASUREMENT BESIDES INTENSIVE OBSERVATION (Project: Development of Problem Solving in Young Child)

Setting: Gooch School
America

(What Measure, Given to Whom, by Whom, and When)

MEASURES	N	Admin.: Indiv.; Small Group	N of E	How Often Administered	When or Over what Period	Comments
. FOR BASELINE INFOR.						
1. Conservation tasks (Piagetian)	22	Indiv.	1 experimentor	1	Sep.-Oct.	
2. Paper Circles (art collage)	22	Sm. Group	1	1	Sep.-Oct.	
3. Dictated Story	22 10	Indiv.	1	3	Sep.-Oct.	For selected subjects, compare beginning, middle, and end
4. Sorting task ("Junk test")	22	Indiv.	2 teams	1	Sep.-Oct.	Used for determining verbal use of abstract, funct. and concrete language and thought, to check approach style
5. The "Burr & Meese" puppet presentation videotaped	10	Indiv.	2	2	Sep.-Oct.	
6. DISD Reading & Math Readiness Test	22	Sm. Group	Tchr.	1	Sep.-Oct.	Relate these scores to other info. gathered
7. "Who in the Classroom"	1 Tchr.	To tchr. (re children)	2	1	Sep.-Oct.	A questionnaire admin. to teacher re Child Style
I. FOR COLLECTING DATA ON SUBJECTS & FOR COMPARISON	1 Tchr.	to tchr. (re children)				
1. Video taping of discussion, puppet script #1, "Elwood"	22	Sm. Group	Tchr. 2 Exper.	3	Dec., (Feb. & Apr.)	The 10 subjects in two groups, 5 ea., (rest of the class in a 3rd) All Videotaped. A coding scheme, "Problem Solving Objective Scale for Child" is applied.

MEASURES	N	Admin.: Ind. or Small Grp.	N of E	How Often Admin.	When	Comments
2 Tasks or activities to stimulate problem solving to observe in diff. contexts						
a. Social	10-22	Indiv./ Sma. Grp.	2	3	Once/mo., Nov.to Apr.	10 subjects, (plus any others in class interested) e.g., "Cooperative Village"
b. Cognitive	10-22	Indiv./ Sma. Grp.	2	3	Once/mo., Nov.to Apr.	E.g., Kamii rollers, De Bono task, wordless picture book task
c. Aesthetic (Arts)	10-22	Indiv./ Sma. Grp.	2	3	Once/mo. Nov. to Apr.	E.g., play, child's own puppet scenario, "I am the Master" movement
III. FOR COLLECTING DATA ON PARENTS						
1. Parents interview	10	Indiv. 2 parents (if poss.)	2	1	Jan.	Comes after informal observation, openhouse & conversation after parent/teacher, conference with subjects' parent(s)
2. Parent and Child prob. solv. task.	10	2 parents (if poss.)	2	1	Feb.	Audio taped
3. Parents teach the child some task	10	2 parents (if poss.)	2	1	Apr.	Audio taped
IV. TEACHER	1		2	Ea. Puppet discussion	During data analysis period	Use "Check list of Teacher Behaviors" (Re Guidance of Young Child. P.Solv. Behavior)

*Note: Experimenters give measures to assess the 10 selected children's responses. However, <u>all</u> the 22 children in in the class have the opportunity to participate in the project tasks.

APPENDIX 1

Brief synopsis of the wordless picture book story:

What Whiskers Did, by Ruth Carroll

A brief synopsis of the story for those of you who do not know Whiskers is the following: First we see a little dog on its leash, running away from an owner; a rabbit observing the dog; then both are chased by a fierce-looking fox; the dog follows the rabbit, who escaped into the rabbit hole; it's dark; dog is lost; it cries; the rabbit comes to lead dog to rabbit's underground home; the rabbit family is about ready to eat and they offer the dog a carrot; the children rabbits and dog play some games together. Then the dog takes leave of new rabbit friends with regrets all around; but dog is soon joyfully reunited with its previously dejected owner.

APPENDIX 1

A COMPREHENSIVE TELLING OF WHISKERS (FOR THOSE WHO DON'T HAVE THE BOOK) (a possible mature model)

What Whiskers Did

One snowny morning a little girl took her dog for a walk. The dog was called Whiskers and he was just a puppy. He was curious about everything. Suddenly he saw some tracks in the snow. He wanted to follow the tracks, so he pulled on the leash. Well, he pulled so hard that the rope broke, and the little gril fell down with a bump. She got up to chase her little puppy, but he was already quite far away.

Up on a hillside a bunny was out. When he looked down, who should he see but Whiskers, sniffing and following some tracks in the snow! Now this bunny did not scare easily and he thought he would go and meet this frisky little puppy. Just as he was going to meet him at the bottom of the hill, he saw a fierce fox! The fox growled at the dog, and the dog barked back, while the bunny started to run for his home.

Now the chase was on! The bunny ran faster and faster; the puppy followed as fast as he could, and the fox was looking forward to a tasty supper. The bunny found his home and jumped right into the hole. Whiskers saw the fox right behing him and he decided to jump in, too. Even the fox tried to get in, but of course he was too big. All that would fit was his big snout!

Inside the hole Whiskers saw the fox's scary face blocking his way out. There was nothing to be done but venture into the dark passageway of the bunny's hole. He walked on, but he was lonely and lost! "Oh, boohoohoo-ooooooooo!" he cried.

Meanwhile the bunny sped along the passageway and found his way right to his cozy house. A bright candle was burning in the entrance, and there were Mummy Bunny, brother and sister bunny, and even baby bunny, to greet him. Supper was almost ready, and he sat down to tell his children a story while Mummy stirred the stew just one more time. As they all sat down to eat, they suddenly heard something coming toward their home. What could it be? Well, it was Whiskers and boy, was he glad to see some friendly faces! The father bunny introduced him to the rest of the family, "Have some carrots and eat with us," they said. After supper Whiskers played with the little bunnies. Oh, did they have fun! First they played piggyback, while the bunnies hung on tight to Whiskers' long, silky fur. Then they played leap-frog, and the bunnies were learning to jump very well. Last of all, they played Blind Man's Bluff. They put a blindfold over Whisker's eyes, and he would try to catch them, as best he could. Finally, it got very late and it was time for Whiskers to go home. The bunny family accompanied Whiskers farewell. The little bunnies were sad to see him go and they began to cry. "I'll come back another day and we can play some more," promised Whiskers as he set off.

When he got home, he found the little girl sitting onthe steps outside her house, and did she look miserable. She thought she might never see her little puppy again! Whiskers went up to her and snuggled his nose right up against her. When the little girl saw Whiskers, she flung her arms around him with joy. How happy she was to have found him again, and how happy Whiskers was to be back home.

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WORDLESS PICTURE BOOKS

Carroll, Ruth. What Whiskers Did. New York: Walck, 1965.

A puppy escapes from a fox and has fun with a bunny family.

Carroll, Ruth. The Witch Kitten. New York: Walck, 1973.

A kitten wishes to ride the witch's broom all by himself and finds himself on a wilder ride than he had anticipated.

dePaola, Tomie. Sing, Pierrot, Sing. San Diego: Harcourt, Brace, Jovanovich, 1983.

Pierrot sings his love to Columbine, who has already given her heart to another. Unhappy Pierrot finds comfort in the love of children.

Goodall, John S. Paddy's New Hat. New York: Atheneum, 1980.

Paddy buys a hat and finds himself drawn into being a policeman, catching a thief, and becoming a hero.

Hamberger, John. The Lazy Dog. New York: Four Winds Press, 1971.

A boy thinks his dog is lazy because he does not want to play ball. Little does he know that the dog has been chasing that ball far and wide before his master woke up.

Hartelius, Margaret. The Chicken's Child. Garden City, N.Y.: Doubleday, 1975.

The chicken's child is a baby alligator with an insatiable appetite. The farmer wants to send him away until he sees how well the alligator can protect the chickens.

Hughes, Shirley. Up and Up. Englewood Cliffs, N.J.: Prentice-Hall, 1979.

A small girl wants to fly and succeeds after several attempts. She causes quite a stir but resists efforts to get her down until she is ready to do so.

Mayer, Mercer. Hiccup. New York: Dial, 1976.

Mr. Hippo's violent attempts to cure his lady friend's hiccups become increasingly irritating to her. The tables are turned when he gets an attack.

Mayer, Mercer and Marianna. One Frog Too Many. New York: Dial, 1975.

Frog shows evidence of sibling rivalry when a new baby frog is added to the family. His efforts to get rid of the intruder meet with little success.

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BIBLIOGRAPHY FOR STYLE

Barbe, W. B., & Swassing, R. H. (1979). Teaching through modality strengths: Concepts and practices. New York: Zaner-Bloser.

Boultinghouse, A. (1983, November). Learning style and the young child. Paper presented at the meeting of the National Association for Gifted Children, Philadelphia.

Cornett, C. E. (1983). What you should know about teaching and learning styles. Bloomington, IN: Phi Delta Kappa Educational Foundation. (Fastback Series no. 191)

Davey, B. (1982, March). Cognitive styles and reading research. Paper presented at the annual meeting of the American Educational Research Association, New York City.

Garger, S., & Guild, P. (1984). Learning styles: the crucial differences. Curriculum Review, 23(1), 9-12.

Griggs, S. A., & Dunn, R. S. (1984). Selected case studies of the learning style preferences of gifted students. Gifted Child Quarterly, 28, 115-119.

Gregorc, A. (1982). An adult's guide to style. Maynard, MA: Gabriel Systems. (Address: Gabriel Systems Inc., Box 357, Maynard, MA 01754)

Kogan, N. (1976). Cognitive style in infancy and early childhood. Hillsdale, N.J.: Erlbaum Associates. (Distributed by Wiley)

Lawrence, G. (1982). People types and tiger stripes. Gainesville, FL: Center for Applications of Psychological Type, Inc.

Messick, S. (1982). Cognitive styles in educational practice (RR-82-13). Princeton, N.J.: Educational Testing Service.

Pitts, M. C., & Thompson, B. (1982, February). The influence of children's cognitive styles on reading comprehension. Paper presented at the annual meeting of the Southwest Educational Research Association, Austin, TX.

Pitts, M., & Thompson, B. (1984). Cognitive styles as mediating variables in inferential comprehension. Reading Research Quarterly, 19, 426-435.

Ricca, J. (1984). Learning styles and preferred instructional strategies of gifted students. Gifted Child Quarterly, 28, 121-126.

Vassar, W. G. (1983, November). Reaching each we teach: Thinking styles and their application to specific curriculum areas for the gifted and talented. Paper presented at the meeting of the National Association for Gifted Children, Philadelphia.